



## Water quality assessment in the application of stormwater reuse for irrigating public lands

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### Abstract:

Stormwater reuse for irrigating public lands presents a viable option for reducing potable water demand in urban settings. However, stormwater generally contains high pollutant levels, which may cause adverse effects on public health and the environment. Water quality in a stormwater retention pond in the City of Calgary, Alberta, was examined in order to assess the feasibility of reusing stormwater for irrigation purposes. Field campaigns were conducted in the 2004, 2005, and 2006 irrigation seasons. The water quality data indicated that the pond water quality generally satisfies the requirements for stormwater recycled as irrigation water. Relationships between stormwater quality and climatological variables were investigated using correlation and regression analysis. Their correlations suggest that intermittent rain events contribute to elevated microbial levels and total suspended solids (TSS). Other climatological variables-air temperature, cloud cover, wind speed, and relative humidity-are also correlated with certain water quality parameters including fecal coliform (FC), TSS, nutrients, and conductivity. Formulated regression equations demonstrate good predictions of observed FC and TSS using climatological variables. Results showing stormwater quality as a function of climatological variables imply that climate change might have potential influence on stormwater quality. © 2008, CAWQ.

**Source:** [https://www.cawq.ca/cgi-bin/journal/abstract.cgi?languageEuro Surveillance \(Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin\)english&pk\\_articleEuro Surveillance \(Bulletin Europeen Sur Les Maladies Transmissibles; European Communicable Disease Bulletin\)390](https://www.cawq.ca/cgi-bin/journal/abstract.cgi?languageEuro%20Surveillance%20(Bulletin%20Europeen%20Sur%20Les%20Maladies%20Transmissibles%20European%20Communicable%20Disease%20Bulletin)english&pk_articleEuro%20Surveillance%20(Bulletin%20Europeen%20Sur%20Les%20Maladies%20Transmissibles%20European%20Communicable%20Disease%20Bulletin)390)

### Resource Description

#### Exposure :

weather or climate related pathway by which climate change affects health

Food/Water Quality, Meteorological Factors, Meteorological Factors, Temperature, Other Exposure

**Food/Water Quality:** Chemical, Pathogen

**Other Exposure:** Cloud cover

#### Geographic Feature:

resource focuses on specific type of geography

Freshwater, Urban

# Climate Change and Human Health Literature Portal

## **Geographic Location:**

resource focuses on specific location

Non-United States

**Non-United States:** Non-U.S. North America

## **Health Impact:**

specification of health effect or disease related to climate change exposure

Infectious Disease

**Infectious Disease:** Foodborne/Waterborne Disease

**Foodborne/Waterborne Disease:** General Foodborne/Waterborne Disease

## **Mitigation/Adaptation:**

mitigation or adaptation strategy is a focus of resource

Adaptation

**Population of Concern:** A focus of content

## **Population of Concern:**

populations at particular risk or vulnerability to climate change impacts

Children, Elderly

## **Resource Type:**

format or standard characteristic of resource

Research Article

## **Timescale:**

time period studied

Time Scale Unspecified

## **Vulnerability/Impact Assessment:**

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content